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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/051,634

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Murali Bashyam

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EXAMINER

REFAI, RAMSEY

ART UNIT

PAPER NUMBER

2152

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/051,634	Applicant(s) BASHYAM ET AL.	
	Examiner Ramsey Refai	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-124 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-124 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2152

DETAILED ACTION

*Response to Amendment*

Responsive to Amendment received September 9, 2006. Claims 1, 9, 10, 32, 63, and 94 have been amended. Claims 1-124 remain pending further examination.

*Response to Arguments*

1. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

*Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10, 15-41, 46-72, 77-103, and 108-124 rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al (U.S. Patent No. 6,389,462) in view of Smith et al (US. Patent No. 6,308,238)

4. As per claim 1, Cohen et al teach a method of managing network communication comprising:

terminating a first transmission control protocol ("TCP") connection at a first network element, wherein said first TCP connection is between said first network element and a second network element, and said first TCP connection is intended to be terminated at a third network element (column 7, lines 11-35 and column 2, lines 39-65; original connection to origin server is terminated and redirected to proxy);

Art Unit: 2152

initiating a second TCP connection between said first network element and a third network element (column 2, lines 51-65, column 15-19 and column 7, lines 27-35);

establishing communications between said second (client) and said third network elements (origin servers) via said first network element (proxy) (column 7, lines 1-35 and column 2, lines 26-44); and

transferring said data between said second and said third network elements (column 1, lines 48-58, column 3, lines 40-46, and column 7, lines 15-35; transfers requested data from origin server to client).

5. Cohen et al fails to determining need for data transfer between said second and said third network elements by monitoring an amount of space available in at least one of a plurality of buffers. However, Smith et al teach determining whether the allocated buffer is full, if not full transferring the next block of data from the server into the buffer (column 13, lines 29-57) It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al and Smith et al because doing so would provide an efficient method of handling multiple client processes by allocating buffers for each client process and monitoring each buffer to completely transfer all blocks of the requested data.

6. As per claim 2, Cohen et al teach said second network element initiates said first TCP connection for said third network element (column 2, lines 39-65 and column 6, lines 47-67; client request is directed to origin server).

7. As per claim 3, Cohen et al teach said communications between said second and said third network elements are established using said first and said second TCP connections (column 7, lines 1-35).

Art Unit: 2152

8. As per claim 4, Cohen et al teach said communications between said second and said third network elements forms an end-to-end TCP connection (column 2, lines 39-65 and column 7, lines 1-35).

9. As per claim 5, Cohen et al teach said first network element is a proxy server (column 7, lines 1-35).

10. As per claim 6, Cohen et al fail to teach wherein a control unit of said proxy server monitors said plurality of buffers. However, Smith et al teach a receive buffer and a transmit buffer operated under the control of a memory controller /sequencer (column 15, lines 22-34 and column 44-49). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al and Smith et al because Smith et al's use of a proxy with transmit and receive buffers controlled by a memory controller in Cohen et al's method would provide a method to monitor buffers in a proxy to support multiple simultaneous TCP connections with clients requesting data.

11. As per claim 7, Cohen et al teach control unit transfers said data between said second and said third network elements (column 7, lines 1-35; inherent in proxy).

12. As per claim 8, Cohen et al teach said proxy server supports transparent communications between said second and said third network elements (abstract, column 1, lines 24-27, and column 2, lines 39-65).

13. As per claim 9, Cohen et al fail to teach at least one of said plurality of buffers is a receive buffer. However, Smith et al teach the use of a receive buffer in a proxy (column 15, lines 22-34 and column 44-49). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al and Smith et al because Smith et al's use of a proxy with transmit and receive buffers controlled by a memory controller in Cohen et al's method would provide a method to monitor buffers in a proxy to

Art Unit: 2152

support multiple simultaneous TCP connections with clients requesting data. Receive buffers hold incoming data requested by clients until operating system/controller is ready to deal with the data.

14. As per claim 10, Cohen et al fail to teach at least one of said plurality of buffers is a transmit buffer. However, Smith et al teach the use of a transmit buffer (column 15, lines 22-34 and column 44-49). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al and Smith et al because Smith et al's use of a proxy with transmit and receive buffers controlled by a memory controller in Cohen et al's method would provide a method to monitor buffers in a proxy to support multiple simultaneous TCP connections with clients requesting data. Transmit buffers transmit requested data to requesting client.

15. As per claim 15, Cohen et al teach said second network element is one of a plurality of clients (Figure 1 and column 6, line 23).

16. As per claim 16, Cohen et al teach one of a plurality of applications on said client initiates said first TCP connection for said client (column 6, lines 47-50, column 1, lines 59-67 column 7, lines 1-11, and abstract).

17. As per claim 17, Cohen et al teach said third network element is one of a plurality of servers (column 1, lines 11-23, column 7, lines 1-35 column 2, lines 26-44, abstract, and Figure 1).

18. As per claim 18, Cohen et al teach a data switching unit of said proxy server determines which one of said plurality of servers to use for said second TCP connection (column 3, lines 22-27, 40-46, column 7, lines 27-48, and column 1, lines 44-67).

19. As per claim 19, Cohen et al teach monitoring said first TCP connection (column 7, lines 1-47 and Figure 2).

Art Unit: 2152

20. As per claim 20, Cohen et al teach receiving a request for data from said application; and determining whether said request requires said second TCP connection with one of said plurality of As per claim 21, Cohen et al teach data switching unit receives said request for data via said control unit (Figure 2 and column 7, line 55-column 8, lines 10).

21. As per claim 22, Cohen et al teach determining of said second TCP connection is done by said data switching unit (column 3, line 10-30, column 1, lines 44-67, column 2, lines 40-65, and column 7, lines 1-47).

22. As per claim 23, Cohen et al teach if said request does not require said second TCP connection with one of said plurality of servers, servicing said request for data, and closing said connection with said client (column 1, lines 13-23, column 2, lines 35-65, column 7, lines 1-46).

23. As per claim 24, Cohen et al teach said request for data is served by passing data from said data switching unit to said control unit for transmission to said application on said client (Figures 2, 4, column 15, lines 35-56, and column 7, line 55-column 8, line 10).

24. As per claim 25, Cohen et al teach if said request requires said second TCP connection with one of said plurality of servers, selecting a first server from said plurality of servers, and initiating said second TCP connection with said first server (column 3, lines 22-27, 40-46, column 1, lines 44-67column 1, lines 13-23, column 2, lines 35-65, and column 7, lines 1-46).

25. As per claim 26, Cohen et al teach said application requests said end-to end TCP connection with said first server (column 1, lines 48-67, column 3, lines 7-28, column 6, lines 47-67 and column 7, lines 11-48).

26. As per claim 27, Cohen et al teach receiving said data on said second TCP connection from said first server; monitoring space in said cache; and if said cache has space, determining whether said first TCP connection need additional data (column 1, lines 48-58, column 3, lines 40-46, and column 7, lines 15-35). Cohen et al fails to teach the use of buffers. However, Smith

Art Unit: 2152

et al teach a receive buffer and a transmit buffer operated under the control of a memory controller/sequencer in a proxy (column 15, lines 22-34 and column 44-49). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al and Smith et al because Smith et al's use of a proxy with transmit and receive buffers controlled by a memory controller in Cohen et al's method would provide a method to monitor buffers in a proxy to support multiple simultaneous TCP connections with clients requesting data.

27. As per claim 28, Cohen et al teach if said first TCP connection needs said additional data, requesting said additional data from said first server; and repeating said steps of receiving, storing, transferring, monitoring and determining until said request for data from said application is served (column 13, line 18 – column 14, lines 20; packets are obtained from origin server until request is completed).

28. As per claim 29, Cohen et al teach said additional data is transferred into said transmit buffer without a request for said additional data (column 7, lines 1-48 and column 13, line 18 – column 14, lines 20; packets of the data requested will be transferred from origin server to proxy until completed).

29. As per claim 30, Cohen et al teach if said request for data from said application is served, closing said first TCP connection with said client (column 1, lines 48-58, column 3, lines 40-46, and column 7, lines 15-35; inherent that a connection established to get requested data gets terminated upon completion of request).

30. As per claim 31, Cohen et al teach said closing of said connection is done by said control unit upon a receiving a request for closing said connection from said data switching unit ((Figures 2, 4, column 15, lines 35-56, and column 7, line 55-column 8, line 10)).



Art Unit: 2152

31. As per claims 32-41, 46-72, 77-103, 108-124, these claims contain similar limitations as claims 1-10, and 15-31 above, therefore are rejected under the same rationale.

32. Claims 11, 13, 42, 44, 73, 75, 104, and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al in view of Smith et al and in further view of Riddle (U.S. Patent No. 5,920,732).

33. As per claims 11 and 13, Cohen et al fail to teach that a buffer is pre-allocated.

However, Riddle teaches a method for preallocating buffers (abstract and column 5, lines 5-15).

It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al, Smith et al, and Riddle because Riddle's use of a preallocated buffers in Cohen et al and Smith, III et al's method would designate specific portions of the buffers for specific content, such as client requests.

34. As per claims 42, 44, 73, 75, 104, and 106, these claims contain similar limitations as claims 11 and 13 above, therefore are rejected under the same rationale.

35. Claims 12, 14, 43, 45, 74, 76, 105, and 107 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al in view of Smith et al (U.S. Patent No. 6,735,634) and in further view of Radko (U.S. Patent No. 5,687,392).

36. As per claims 12 and 14, Cohen et al fail to teach that a buffer is dynamically allocated.

However, Radko et al teach that use of a dynamically allocated buffer (abstract). It would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al, Smith et al, and Radko because Radko's use of a dynamically allocated buffer in Cohen et al and Smith, III et al's method would allow for increased buffer space by not designating specific portions of the buffers for specific content and dynamically allocating space as data space is needed.

Art Unit: 2152

37. As per claims 43, 45, 74, 76, 105, and 107, these claims contain similar limitations as claims 12 and 14 above, therefore are rejected under the same rationale.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

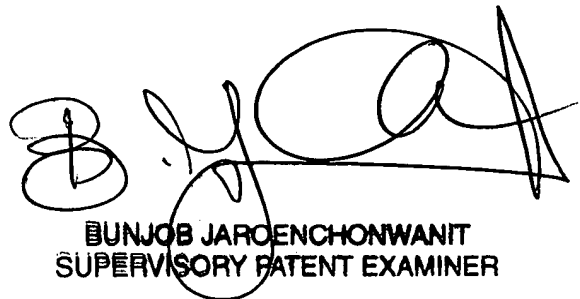
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Refai whose telephone number is (571) 272-3975. The examiner can normally be reached on M-F 8:30 - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2152

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramsey Refai  
Examiner  
Art Unit 2152  
November 8, 2006



**BUNJOB JAROENCHONWANIT**  
**SUPERVISORY PATENT EXAMINER**